

# Clarke®



## SANDER/POLISHER

MODEL NO: CP180

PART No: 6462105

## OPERATION & MAINTENANCE INSTRUCTIONS



130805

gc0811

Thank you for purchasing this CLARKE Sander/Polisher, which is designed for DIY use. Before attempting to use the machine, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to the product giving you long and satisfactory service.

## Guarantee

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase. This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended. Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission. This guarantee does not effect your statutory rights.

## Specifications

Elec. Supply .....	230V 50Hz 1 ph
Power Rating .....	1300W Motor
Fuse Rating .....	13amp
No Load Speed .....	1,000-3,000 RPM
Sound Power Level .....	98.1dB(A)
Net Weight .....	5.0 kg
Spindle Thread .....	M14
Vibration	
Measured vibration emission value - $a_e$ ..	<2.5m/s <sup>2</sup>
Highest reading in a single plane .....	5.1m/s <sup>2</sup>

Values determined according to EN28622-1

## Residual Risks

Even when the power tool is used as prescribed it is not possible to eliminate all residual risk factors. The following hazards may arise in connection with the power tool's construction and design:

1. Damage to lungs if an effective dust mask is not worn.
2. Damage to hearing if effective hearing protection is not worn.
3. Damages to health resulting from vibration emission

if the power tool is being used over longer period of time or not adequately managed and properly maintained.

**WARNING!** This machine produces an electromagnetic field during operation. This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants to consult their physician and the medical implants manufacturer before operating this machine.

## Environmental Protection



Do not dispose of this product with general household waste. All tools, accessories and packaging should be sorted, taken to a re-cycling centre and disposed of according to the laws governing Waste Electrical and Electronic Equipment.

# Safety Precautions

## **WARNING:**

*As with all machinery, there are certain hazards involved with their operation and use. Exercising respect and caution will considerably lessen the risk of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator or damage to property, may result.*

1. **ALWAYS** Learn the machine's applications, limitations and the specific potential hazards peculiar to it. Read and become familiar with the entire operating manual.
2. **ALWAYS** use a face or dust mask if operation is particularly dusty.
3. **ALWAYS** check for damage. Before using the machine, any damaged part, should be checked to ensure that it will operate properly, and perform its intended function. Check for alignment of moving parts, breakage of parts, mountings, and any other condition that may affect the machines' operation. Any damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use the machine. Consult your local dealer.
4. **ALWAYS** disconnect the tool/machine from the power supply before servicing and when changing accessories.
5. **ALWAYS** wear safety goggles, manufactured to the latest European Safety Standards. Everyday eyeglasses do not have impact resistant lenses; they are not safety glasses.
6. **ALWAYS** keep work area clean. Cluttered areas and benches invite accidents.
7. **ALWAYS** ensure that adequate lighting is available. A minimum intensity of 300 lux should be provided. Ensure that lighting is placed so that you will not be working in your own shadow.
8. **ALWAYS** keep children away. All visitors should be kept a safe distance from the work area, especially whilst operating the machine.
9. **ALWAYS** maintain machine in top condition. Keep tools/machines clean for the best and safest performance. Follow maintenance instructions.
10. **ALWAYS** handle with extreme care. Do not carry the tool/machine by its' electric cable or yank the cable to disconnect it from the power supply.
11. **ALWAYS** ensure the switch is off before plugging in to mains. Avoid accidental starting.
12. **ALWAYS** concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.
13. **ALWAYS** keep your proper footing and balance at all times - don't overreach. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.



## Electrical Connections

Connect the mains lead to a standard 230V (50Hz) electrical supply through an approved 13 Amp BS1363 plug or a suitably fused isolator switch.

**WARNING: This appliance is DOUBLE INSULATED**

**IMPORTANT:** The wires in the mains lead are coloured in accordance with the following code:

Blue - Neutral

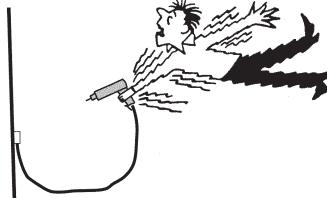
Brown - Live

As the colours of the flexible cord of this appliance may not correspond with the coloured markings identifying terminals in your plug proceed as follows:

- Connect **BROWN** coloured cord to plug terminal marked with a letter L or coloured RED.
- Connect **BLUE** coloured cord to plug terminal marked with a letter N or coloured BLACK.

**IMPORTANT:** If this appliance is fitted with a plug which is moulded on to the electric cable (i.e. non-re-wireable) please note:

1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from your local dealer or most electrical stockists.
5. The fuse in the plug must be replaced with one of the same rating (13 amps) and this replacement must be approved to BS1362.



**IMPORTANT:** If in any doubt, do not attempt any electrical repair yourself. Consult a qualified technician.

### IMPORTANT:

If a cable extension is needed, it is essential to comply with the following data.

Voltage	Extension length	Cable section
230v	Up to 20m	2.5mm <sup>2</sup>
230v	From 20 to 50m	4mm <sup>2</sup>

## Overview



Fig. 1

## Assembly

Before assembling the sander/polisher, check for missing parts and or damage caused in transit. Any defects must be reported to the Clarke dealer where the tool was originally purchased as soon as possible.

**IMPORTANT:** Before carrying out any adjustments or repairs, ensure the sander/polisher is isolated from the main electric supply by switching off and removing the plug from the socket.

### Fitting Handles

The handles can be fitted for either left or right handed use, it is also possible to fit one or both handles, depending on individual choice.

#### 1 'D' Handle Only

Slot the 'D' handle onto the body of the tool see Fig. 2.

NOTE: the handle is recessed to fit onto the tool in one position only, and is not adjustable, other than for left or right handed use.



Fig. 2

When the handle is in place, secure it in position with two allen screws and tighten the screws using an 8mm Allen key. DO NOT overtighten.

## **2 Side Handle Only**

To use the side handle only, screw into the D shaped boss on either side of the body, depending whether the tool is to be used left or right handed. See Fig. 3. DO NOT overtighten.

## **3 Both Handles**

To fit both handles, Fit the 'D' Handle as described in section 1.

Only fit one Allen screw to the longest side of the handle as shown in Fig. 4, DO NOT tighten yet.

Secure the other side using the side handle, hand tight only, tighten the Allen screw as before.

NOTE: store the spare Allen screw for use to secure the 'D' handle should it be necessary to remove the side handle.

## **Fitting Backing Pads**

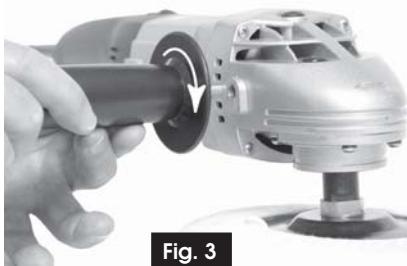
To fit backing pads, depress the spindle lock and screw the required backing pad onto the spindle, hand tight only.

To remove the pads it may be necessary to use the spanner supplied.

**IMPORTANT** never depress the spindle lock whilst the motor is running. Failure to observe this instruction may cause damage to the tool and could even lead to personal injury.

Depending on which pad is fitted, either the polishing bonnet or sanding discs can be fitted.

When fitting the bonnet ensure the lace tails are tucked away before switching the polisher on.



**Fig. 3**



**Fig. 4**

## Operation

When using this tool, always hold it firmly with both hands. Before switching the tool on, always check for damage/missing parts etc. Any defects must be rectified before continuing.

Whether polishing or sanding, always ensure the workpiece is securely fixed, i.e. clamped to workbench or secured in a vice.

When working on car bodywork, always ensure that there is no possibility of loose items being left on the car bonnet, boot or roof. The vibration may cause the items to fall onto the rotating disc and be thrown, leading to injury to those in the work vicinity. Always keep the work area tidy.

Firmly hold the sander/polisher with both hands and switch the tool ON. To do this, fully depress the trigger lock button (Fig 1), whilst holding the button in fully, depress the trigger, and the motor will start.

NOTE: the motor will start slowly and gradually increase to full speed. This is a safety feature known as soft start which gives smooth control on startup.

As soon as the motor has reached full speed, adjust the speed control to the desired working speed.

Slowly apply the rotating disc to the workpiece and proceed to sand or polish, moving the disc across the work applying a light even pressure. DO NOT attempt to force the tool as this will cause an uneven finish and may even lead to premature motor failure.

If it is necessary to change the speed, always lift the disc from the work surface, adjust the speed control to the required speed, then reapply to the work surface and continue as before.

On completion, lift the disc from the work surface before releasing the trigger, ensuring the motor has come to a complete stop before setting the tool down on the workbench etc. Failure to do so can cause the tool to be thrown, resulting in damage to the tool or serious personal injury.

## Maintenance

Inspect the sander/polisher regularly for signs of wear or damage, any defects should be rectified before using the tool again.

All the bearings used in this product are sealed and lubricated with a sufficient quantity of high grade lubricant, which should under normal operating conditions, last the lifetime of the tool.

Regularly clean the tool, using a clean soft brush and/or clean soft cloth. DO NOT use any abrasive cleaning agents on any part of the tool.

Most plastics are susceptible to various solvents and cleaning agents, and may be damaged if allowed to come into contact with them, e.g. brake fluids and petroleum based products etc.

Occasionally remove and inspect the motor brushes and replace if necessary. When removing brushes, note which way round they are etc. The brushes must be returned exactly as they are removed. DO NOT swap over positions etc.

Never allow the brushes to wear more than two thirds of their original length, new brushes are approximately 13mm long. Fit new brushes when they are worn down to 5mm.

## **HAND-ARM VIBRATION**

*Employers are advised to refer to the HSE publication "Guide for Employers".*

All hand held power tools vibrate to some extent, and this vibration is transmitted to the operator via the handle, or hand used to steady the tool. Vibration from about 2 to 1500 Herz is potentially damaging and is most hazardous in the range from about 5 to 20 Herz.

Operators who are regularly exposed to vibration may suffer from Hand Arm Vibration Syndrome (HAVS), which includes 'dead hand', 'dead finger', and 'white finger'. These are painful conditions and are widespread in industries where vibrating tools are used.

The health risk depends upon the vibration level and the length of time of exposure to it.....in effect, a daily vibration dose.

Tools are tested using specialised equipment, to approximate the vibration level generated under normal, acceptable operating conditions for the tool in question. For example, a grinder used at 45° on mild steel plate, or a sander on softwood in a horizontal plane etc.

These tests produce a value 'a', expressed in metres per second per second, which represents the average vibration level of all tests taken, in three axes where necessary, and a second figure 'K', which represents the uncertainty factor, i.e. a value in excess of 'a', to which the tool could vibrate under normal conditions. These values appear in the declaration on page 2.

You will note that a third value is given in the specification - the highest measured reading in a single plane. This is the maximum level of vibration measured during testing in one of the axes, and this should also be taken into account when making a risk assessment.

'a' values in excess of 2.5 m/s<sup>2</sup> are considered hazardous when used for prolonged periods. A tool with a vibration value of 2.8 m/s<sup>2</sup> may be used for up to 8 hours (cumulative) per day, whereas a tool with a value of 11.2 m/s<sup>2</sup> may be used for ½ hour per day only.

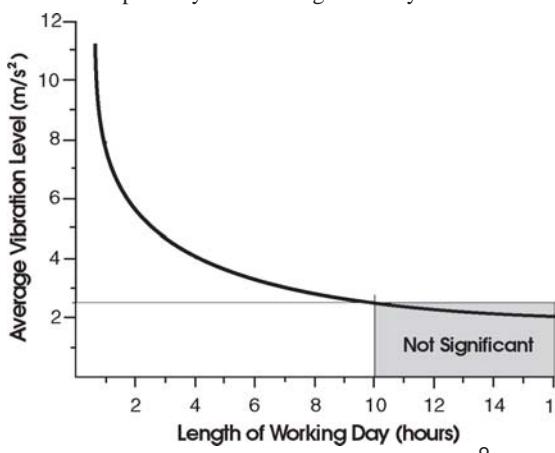
The graph below shows the vibration value against the maximum time the respective tool may be used, per day.

The uncertainty factor should also be taken into account when assessing a risk. The two figures 'a' and 'K' may be added together and the resultant value used to assess the risk.

It should be noted that if a tool is used under abnormal, or unusual conditions, then the vibration level could possibly increase significantly. Users must always take this into account and make

their own risk assessment, using the graph as a reference.

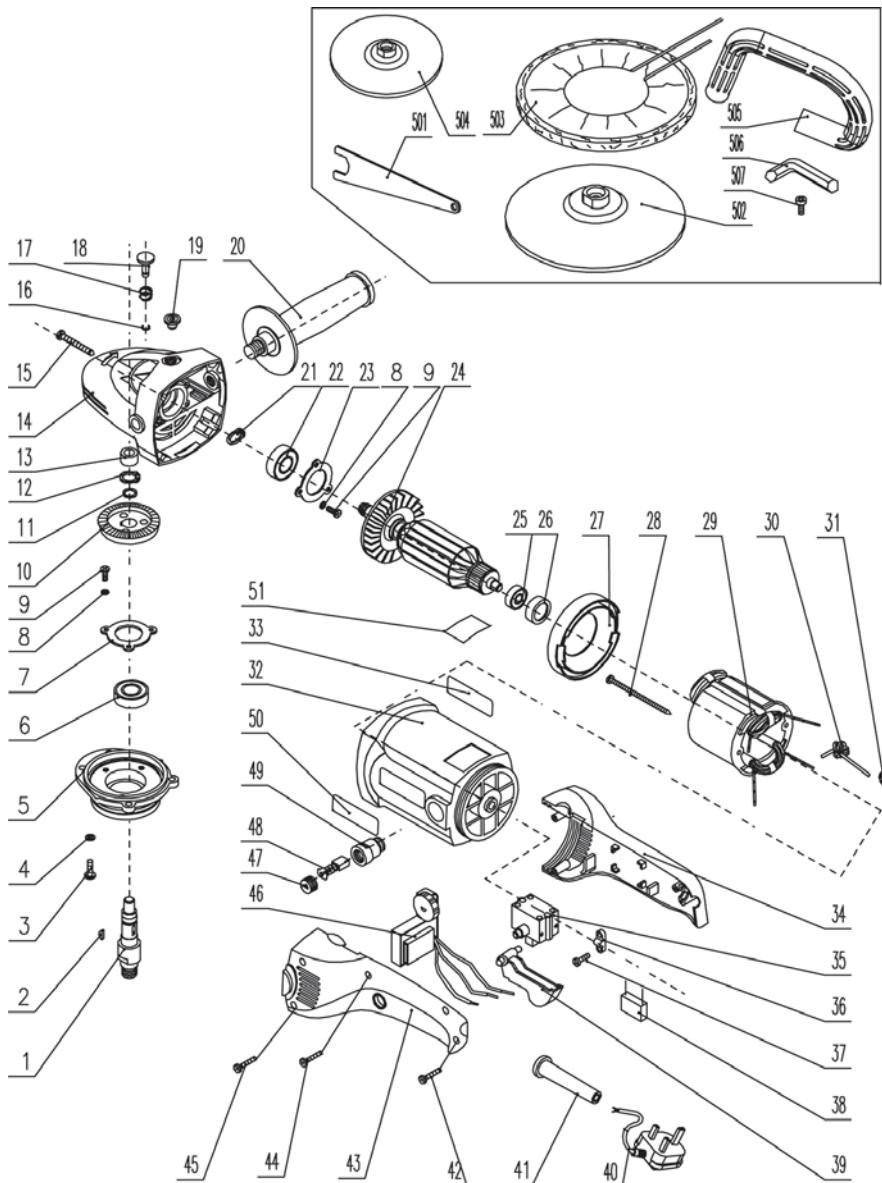
Some tools with a high vibration value, such as impact wrenches, are generally used for a few seconds at a time, therefore the cumulative time may only be in the order of a few minutes per day. Nevertheless, the cumulative effect, particularly when added to that of other hand held power tools that may be used, must always be taken into account when the total daily dose rate is determined.



## Parts List

Item	Part No	Description	Qty
1	HT18001	Spindle	1
2	HT18002	Key 4 x 5 x 13	1
3	HT18003	Screw M5 x 16	4
4	HT18004	Spring Washer Ø5	4
5	HT18005	Gear Housing Cover	1
6	HT18006	Bearing 6002.RS	1
7	HT18007	Bearing Cover	1
8	HT18008	Spring Washer Ø4	6
9	HT18009	Screw M4 x 10	6
10	HT18010	Large Gear	1
11	HT18011	Wave Spring Washer	1
12	HT18012	Circlip for Shaft Ø14	1
13	HT18013	Bronze Bush	1
14	HT18014	Gear Housing	1
15	HT18015	Screw ST5x45	4
16	HT18016	'E' Ring Ø6	1
17	HT18017	Break Spring	1
18	HT18018	Break Pin	1
19	HT18019	Rubber Plunger	3
20	HT18020	Side Handle	1
21	HT18021	Circlip for shaft Ø12	1
22	HT18022	Bearing 6201.RS	1
23	HT18023	Bearing Cover	1
24	HT18024	Armature	1
25	HT18025	Bearing 608.2z	1
26	HT18026	Bearing Bushing	1
27	HT18027	Guide Wind Circle	1
28	HT18028	Screw ST 4 x 75	2
29	HT18029	Stator	1
30	HT18030	Inductance	2
31	HT18031	Connection Spring	2
32	HT18032	Housing	1
33	HT18033	Name Plate1	1
34	HT18034	Rear Handle (Right)	1
35	HT18035	Switch	1
36	HT18036	Cable Grip	1
37	HT18037	Screw ST4 x 16	2
38	HT18038	Capacitor	1
39	HT18039	Switch Button	1
40	HT18040	Power Cord with Moulded Plug	1
41	HT18041	Cable Protector	1
42	HT18042	Screw ST4 x14	1
43	HT18043	Rear Handle (Left)	1
44	HT18044	Screw ST 4 x 16	2
45	HT18045	Screw ST 4 x 22	2
46	HT18046	Timing Switch	1
47	HT18047	Brush Cap	2
48	HT18048	Carbon Brush	2
49	HT18049	Brush Holder	2
50	HT18050	Name Plate2	1
51	HT18051	Data Plate	1
501	HT180501	Spanner	1
502	HT180502	Polishing Backing Pad	1
503	HT180503	Artificial Lambs Wool Polishing Bonnet	1
504	HT180504	Sanding Backing Pad (Velcro)	1
505	HT180505	'D' Shape Handle	1
506	HT180506	Allen Key	1
507	HT180507	Screw M10x 25	1

## Parts Diagram



### IMPORTANT:

The use of parts other than CLARKE replacement parts may result in safety hazards, decreased tool performance and may invalidate your warranty.



**Clarke®**  
**INTERNATIONAL**

Hemnall Street, Epping, Essex CM16 4LG

### DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

- 2004/108/EC Electromagnetic Compatibility Directive.
- 2006/42/EC Machinery Directive.
- 2006/95/EC Low Voltage Equipment Directive.
- 2002/95/EC Restriction of Hazardous substances.

The following standards have been applied to the product(s):

- EN 61000-3-3:1995+A1+A2, EN 55014-1:2006, EN 55014-2:1997+A1
- EN 61000-3-2:2006, EN 60745-2-3:2007, EN 60745-1:2009

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2003

**Product Description:** Polisher (230V)  
**Model number(s):** CP180  
**Serial / batch Number:** N/A  
**Date of Issue:** 11/08/2011

Signed:



J.A. Clarke

Director

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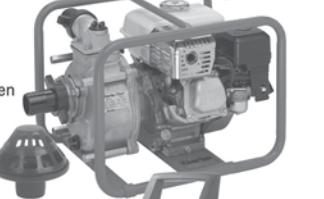
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